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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

NOLAN, SANDRA M

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1772

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/626,252

Applicant(s)

GIBSON ET AL.

Examiner

Sandra M. Nolan

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 23 July 2003.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claims

1. Claims 1-36 are pending.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 23 July 2003 was considered by the examiner.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. What is "a substrate carrier having a substrate receiving surface"? Does the thing that holds the substrate receive the same substrate?

B. What things are bonded by the adhesive? The actuator and the carrier?

C. What is a "fluid definition layer"?

D. What is the "means for ejecting a fluid"? What is the "means for forming a chamber"? What is the "means for forming a nozzle"? What is the "means for performing logic"? Are these "means" structures in/on the cartridges of claims 1 or 33?

Please clarify the claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 8-11, 14 and 33-35 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 06183000A (abstract and drawings only).

The '000A abstract teaches ink-jet heads having nozzle plates 2, with nozzles 3 arranged opposite a recording medium, and having channels to form ink cavities 8 and means to generate pressure to form ink drops; the plates are bound to the channels in streamlined fashion using a "filler" 7 that contains an epoxy resin and a cyclic aliphatic polyamine as a reactive diluent (Figure 1 and abstract, first and second paragraphs). The heads also have bases 5 below the channels (Figure 2).

It is well known in the art that an ink-jet head is a fluid ejection cartridge.

The "filler" is deemed to be an adhesive because it helps seal the plates to the channel-forming structures 1 (Figure 1).

Cavities 8 (Figure 1) are deemed to be "reservoirs".

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the '000A abstract.

The '000A abstract is discussed above. It fails to teach the drop volume or the fluid energy generators recited in these dependent claims.

In the absence of convincing objective evidence to the contrary, the use of any conventional type of energy generator in the heads of the '000A abstract is deemed a matter of engineering choice, depending upon the features desired in the ink-jet head.

10. Claims 18-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over the '000A abstract in view of Braun et al (DD 142964A, abstract only).

The '000A abstract is discussed above. It fails to teach the epoxy resins, polyamines, thixotropic agents, couplers, fillers and pigments, as amounts thereof recited in these dependent claims.

Braun teaches the use of bisphenol A epoxy resins, fillers and polyamines in two-component adhesives with silanes (abstract, first paragraph). The adhesives are resistant to aqueous media (abstract, second paragraph).

The references are analogous because they both deal with epoxy resins that function as adhesives.

It would have been obvious to one having ordinary skill in the art at the time of the invention to employ suitable amounts of the bisphenol A-based resins, polyamines, silanes and fillers of Braun, or conventional analogs thereof, in the adhesives of the '000A ink-jet heads, in order to render them resistant to aqueous attack.

The motivation to use the bisphenol A-based resins, silanes and fillers of Braun, or analogs thereof, in the "fillers", or adhesives, of the '000A ink-jet heads is found in the second paragraph of the Braun reference, where resistance to aqueous media is taught.

The silanes of Braun are deemed to inherently function as couplers.

The use of thixotropic agents/pigments in suitable amounts in adhesives suggested by the combined references is deemed an obvious matter of design/-engineering choice, depending upon how viscous and/or visible one wants the adhesives to be.

Conclusion

Any inquiry concerning this communication should be addressed to Sandra M. Nolan, at telephone number 571/272-1495. She can normally be reached Monday through Thursday, from 6:30 am to 4:00 pm, Eastern Time.

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If attempts to reach the examiner are unsuccessful, her supervisor, Harold Pyon, can be reached at 571/272-1498.

The fax number for patent application documents is 703/872-9306.



S. M. Nolan
Primary Examiner
Technology Center 1700

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